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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/013,057	10/30/2001	Kenji Terasawa	SCEITO 3.0-096	8282

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EXAMINER
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SKED, MATTHEW J

ART UNIT	PAPER NUMBER
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2655

DATE MAILED: 06/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/013,057

Applicant(s)

TERASAWA ET AL.

Examiner

Matthew J Sked

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Amendment***

1. The objection to the specification is withdrawn in view of the amendments filed 3/21/05.
2. Applicant's arguments, in view of the amendments, filed 3/21/05 have been fully considered but they are not persuasive. Independent claims 1, 8, 15 and 22 were rejected over Yamamoto in view of Ozawa. Applicant has since amended these claims to include the limitations of dependent claims 3, 10 and 17 to more clearly claim the invention as an apparatus, method, system and program on a storage medium for controlling the operation of a game character by extracting sound interval and sound volume information for the player's voice and comparing this extracted information with reference voice data, for the relative sound interval and sound volume, that is stored in advance on a storage means to determine the operation of a game character. The applicant asserts that neither Yamamoto nor Ozawa teaches "the evaluation reference voice data required by the independent claims is prepared/stored in advance..." (page 12, first sentence, last paragraph).

The Examiner respectfully disagrees. The claims state "reference voice data storage means for storing data in advance as an evaluation reference for the relative sound interval and the sound volume of the voice to be inputted by the player". This limitation is interpreted by the Examiner as meaning that the evaluation reference voice data is stored in a storage means in advance to the voice input from the user. As stated by the applicant "the voice parameters are based on current and previous information

obtained from the performer. In particular, the change parameters are determined by taking the difference between the current and last signals" (page 11, first two sentences, last full paragraph). Therefore, because the voice parameters are based upon the current **and previous** information, the previous information must be stored or buffered prior (in advance) to the current voice inputted by the user in order to make the comparison to obtain the change parameters. The rejection to claims 1, 8, 15 and 22 stands as outlined below.

3. Claims 3, 10, and 17 have been canceled.
4. Applicant also traverses the rejections to claims 4, 5, 11, 12, 18 and 19. The applicant sites the rejections as improper due to hindsight reasoning and lack of factual data to support the Examiner's conclusions of obviousness.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

As per claims 4, 11 and 18 the Examiner stated that it would have been obvious to modify the teachings of Yamamoto and Ozawa to indicate to the user an expression mode to be inputted by the player. Comerford et al. (U.S. Pat. 6,748,361) teaches a

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personal speech assistant that prompts the user to speak louder or to use certain command words that the application would recognize (col. 18, lines 42 to col. 19, line 5). This indicates that it is well known in the art to prompt a user to speak in a particular expression mode that would be more suitable for current conditions or applications. Thus, preventing error and confusion and making the system more user-friendly.

As per claims 5, 12 and 19 the Examiner took Official Notice that changing the rate of animation to correspond to the rate of speech of the user is well known in the art. Bellomo et al. (U.S. Pat. 6,766,299), cited in the previous Office Action, teaches a speech controlled animation system that allows the animation to speak in the user's voice. Each phoneme from the phoneme train of the user is mapped to a mouth shape animation sequence where similar mouth shapes corresponding to similar phonemes are mapped together into one event (col. 7, lines 13-60). Therefore, with a constant sampling rate (col. 5, lines 18-28) the faster the user speaks the more likely the phonemes are to be different at each sampling interval thus giving a sequence of events without much grouping and more changes in animation frames hence giving faster animation.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 2, 6, 8, 9, 13, 15, 16, 20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto (U.S. Pat. 6,577,998) in view of Ozawa et al. (U.S. Pat. 6,538,666).

As per claims 1, 8, 15 and 22, Yamamoto teaches an entertainment apparatus, method, storage unit and executable program with which a voice input device for receiving a voice input from a player is usable, the entertainment apparatus comprising:

sound interval extracting means for extracting information of a relative sound interval from the voice of the player received through said voice input device (voice analyzing unit analyzes the voice input to determine a pitch parameter, col. 7, lines 15-18);

sound volume extracting means for extracting information of a sound volume from the voice of the player received through said voice input device (voice analyzing unit analyzes the voice input to determine a volume parameter, col. 7, lines 15-18);

reference voice data storage means for storing voice data as an evaluation reference about the relative sound interval and the sound volume with respect to the voice to be inputted by the player (last frequency value and volume value are saved to calculate the frequency and volume change parameters, col. 9, lines 41-48 and 53-59), wherein; and

said character control means periodically compares said extracted information of the relative sound interval and said extracted information of the sound volume with the voice data as said evaluation reference, and determines operation contents of the character on the basis of results of the comparison (last frequency value and volume

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values are compared to the current frequency and volume values which are then used to determine the animation parameters for display, col. 9, lines 41-48, 53-59 and col. 7, lines 30-36);

wherein said character control means makes the character perform an operation according to a result of the evaluation (adjust the animation parameters according to the voice parameters which include the pitch and uses these adjusted animation parameters to retrieve the corresponding animation frames and displays them, col. 7, lines 30-36 and 45-50).

Yamamoto does not teach a character control means for controlling the operation of a game character.

Ozawa teaches a character control means for controlling the operation of a game character (player enters spoken words to have a character perform given actions, col. 11, lines 59-64).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the speech-controlled animation system of Yamamoto to operate in a video game environment as taught by Ozawa because it would allow a handicapped person to operate the animated character.

7. As per claim 2, 9 and 16, Yamamoto does not teach a guide display means for indicating contents of the voice to be inputted by the player.

Ozawa teaches a guide display means for indicating contents of the voice to be inputted by the player (displays the possible verbal inputs the user can say in different colors before the user speaks the commands, col. 16, lines 57-66).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the system of Yamamoto to have a guide display means for indicating contents of the voice to be inputted by the player as taught by Ozawa because, as Ozawa teaches, it would prevent the user from uttering words at random because they do not know which words to enter, which prevents the player from losing interest in the game (col. 16, lines 66-67 and col. 17, lines 1-2).

8. As per claims 6, 13 and 20, Yamamoto teaches that said character control means compares said extracted information of the relative sound interval and the voice data of the relative sound interval as said evaluation reference, and, as a result of the comparison, said character control means exaggerates an expression of the character as the extracted relative sound interval is higher than the relative sound interval as the evaluation reference, and moderates the expression of the character as the extracted relative sound interval is lower than the relative sound interval as the evaluation reference (lips are oscillated according to changes in the frequency of the input voice, hence a high frequency would oscillate the lips more than a low frequency hence exaggerating and moderating the expression of the character, col. 8, lines 59-63).

9. Claims 4, 11 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto in view of Ozawa and taken in further view of Comerford et al. (U.S. Pat. 6,748,361).

Neither Yamamoto nor Ozawa teaches an expression mode display means for indicating an expression mode of the voice to be inputted by the player.



Comerford teaches a personal speech assistant that prompts the user to speak louder or to use certain command words that the application would recognize (col. 18, lines 42 to col. 19, line 5).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the system of Yamamoto and Ozawa to have an expression mode display means for indicating an expression mode of the voice to be inputted by the player as taught by Comerford because it would indicate to the user the appropriate way to express the input so as to obtain the preferred output hence making the system more user-friendly.

10. Claims 5, 7, 12, 14, 19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto in view of Ozawa and taken in further view of Bellomo et al. (U.S. Pat. 6,766,299).

As per claims 5, 12 and 19, Yamamoto teaches the operation of said character is shown by regenerating image data prepared in advance (animation generator retrieves a desired sequence of animation frames from an animation frame database, col. 7, lines 45-48).

Neither Yamamoto nor Ozawa teach said character control means changes a regenerating speed of said image data on the basis of the difference between timing for indicating contents of the voice to be inputted by said player and timing for starting the input of the voice by the player.

Bellomo et al. (U.S. Pat. 6,766,299), cited in the previous Office Action, teaches a speech controlled animation system that allows the animation to speak in the user's voice. Each phoneme from the phoneme train of the user is mapped to a mouth shape animation sequence where similar mouth shapes corresponding to similar phonemes are mapped together into one event (col. 7, lines 13-60). Therefore, with a constant sampling rate (col. 5, lines 18-28) the faster the user speaks the more likely the phonemes are to be different at each sampling interval thus giving a sequence of events without much grouping and more changes in animation frames hence giving faster animation.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the system of Yamamoto and Ozawa so that the character control means changes a regenerating speed of said image data on the basis of the difference between timing for indicating contents of the voice to be inputted by said player and timing for starting the input of the voice by the player as taught by Bellomo because it would give the animation a better appearance to have the sound and image synchronized and using a reference timing would give a fast and accurate calculation of the rate of the user's speech which would speed up processing.

11. As per claims 7, 14 and 21, Yamamoto and Ozawa do not specifically teach nor suggest the character control means compares said extracted information of the sound volume and the voice data of the sound volume as said evaluation reference, and as a result of this comparison, said control means exaggerates a behavior of the character as the extracted sound volume is larger than the sound volume as the evaluation

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reference, and moderates the behavior of the character as the extracted sound volume is smaller than the sound volume as the evaluation reference.

Bellomo teaches a speech-controlled animation system that modifies the shape of the mouth of the animation to a large "O" if the volume level is loud and a small "O" when the volume level is low hence exaggerating the expression when the volume is loud (col. 5, lines 57-67).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the system of Yamamoto and Ozawa so that the character control means compares said extracted information of the sound volume and the voice data of the sound volume as said evaluation reference, and as a result of this comparison, said control means exaggerates a behavior of the character as the extracted sound volume is larger than the sound volume as the evaluation reference, and moderates the behavior of the character as the extracted sound volume is smaller than the sound volume as the evaluation reference as taught by Bellomo because it would better correlate the animation with the voice of the user hence making the system more enjoyable to use.

### ***Conclusion***

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J Sked whose telephone number is (571) 272-7627. The examiner can normally be reached on Mon-Fri (8:00 am - 4:30 pm).

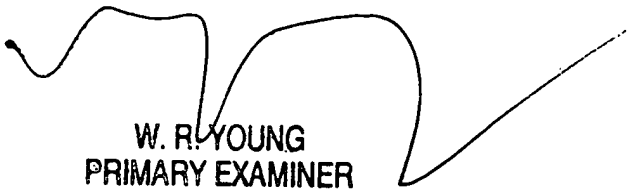
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571-272-7582. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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W. R. YOUNG  
PRIMARY EXAMINER